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Titolo	Stochastic Equations: Theory and Applications in Acoustics, Hydrodynamics, Magnetohydrodynamics, and Radiophysics, Volume 1 : Basic Concepts, Exact Results, and Asymptotic Approximations / / by Valery I. Klyatskin
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Descrizione fisica	1 online resource (XX, 418 p. 45 illus.)
Collana	Understanding Complex Systems, , 1860-0832
Disciplina	519.23
Soggetti	Computational complexity Sociophysics Econophysics Dynamics Ergodic theory Fluid mechanics Complexity Data-driven Science, Modeling and Theory Building Dynamical Systems and Ergodic Theory Engineering Fluid Dynamics
Lingua di pubblicazione	Inglese
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Nota di contenuto	Dynamical description of stochastic systems -- Random quantities, processes, and fields -- Stochastic equations -- Asymptotic methods for analyzing stochastic equations.
Sommario/riassunto	This monograph set presents a consistent and self-contained framework of stochastic dynamic systems with maximal possible completeness. Volume 1 presents the basic concepts, exact results, and asymptotic approximations of the theory of stochastic equations on the basis of the developed functional approach. This approach offers a possibility of both obtaining exact solutions to stochastic problems for a number of models of fluctuating parameters and constructing various

asymptotic buildings. Ideas of statistical topography are used to discuss general issues of generating coherent structures from chaos with probability one, i.e., almost in every individual realization of random parameters. The general theory is illustrated with certain problems and applications of stochastic mathematical physics in various fields such as mechanics, hydrodynamics, magnetohydrodynamics, acoustics, optics, and radiophysics. .